

REMARKS

Claims 2-16 are pending in the application. Claims 2-16 are rejected. Claims 6, 7, 9 and 11 have been amended. Claims 17-21 have been added. No new matter is introduced with these amendments.

Reply to the Rejection of Claim 6 and 7 under 35 U.S.C. §§ 101 and 112, 2nd Paragraph

The Examiner has rejected Claims 6 and 7 as not being proper process claims. Specifically, the Examiner states that “the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process”.

Further, the Examiner has rejected Claims 6 and 7 as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicants regard as the invention. Specifically, the Examiner states -

Claims [6 and 7] provide for the use of, but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 6 and 7 have been amended. It is believed that these amendments overcome the Examiner’s rejection of those claims as not being proper process claims and as being indefinite. Withdrawal, therefore, of the rejection of claims 6 and 7 under 35 U.S.C. §§ 101 and 112, second paragraph is respectfully requested.

Reply to the Rejection of Claims 2-16 under 35 U.S.C. § 103(a)

The Examiner has rejected Claims 2-16 as being unpatentable over U.S. Patent No. 4,207,355 to Chiu *et al.* (“Chiu”) in view of U.S. Patent No. 5,362,510 to Mizoguchi *et al.* (“Mizoguchi”). Specifically, the Examiner states –

Chiu *et al* disclose cold-water dispersible, gelling starches. The starches are prepared using converted/crosslinked starches. After the crosslinking reaction is complete, the pH of the reaction mixture is adjusted to 5.5-6.5 and the crosslinked product be drum dried directly to obtain pregelatinized starch. After drying, the starch product is removed from the drum drier in sheet form and then pulverized to a powder. Alternatively, the product may be reduced to flake form. Starch such as tapioca can be used. (See columns 2-3, 5)

Chiu et al do not disclose the properties as claimed and using the starches in dough products and dough having the properties as claimed and the concentration of starch..

Mizoguchi et al disclose processed starch and its use in bakery foods prepared from dough. (See column 2)

While Chiu et al do not disclose the properties of the starch as claimed, the starch disclosed is prepared by the same process as disclosed in the instant specification; thus, it is obvious the starch will have the same properties as claimed. The specification discloses converted and crosslinked starches can be used. The pH of the starch is adjusted to within the level disclosed in the specification and the starch is then drum dried which is the same step disclosed in the specification. Chiu et al do not disclose using the starch in a dough; however, it is known in the art to use processed starch in dough products as shown by Mizoguchi et al. Thus, it would have been obvious to one skilled in the art to use the Chiu et al starch in dough products. When the Chiu et al starch is added to dough, it is obvious the dough will have the properties as claimed because the same starch is used. Since the starch has gelling property, it is obvious it can function as a binder because gelling agent is commonly used to bind food ingredients. It would also have been obvious to use any other starch including sago and potato when it is desired to transform such starches into cold-water dispersible, gelling starches. . . .

In the response filed April 16, 2003, applicant argues neither Chiu nor Mizoguchi teach or suggest the properties of the starch as claimed. It is recognized that Chiu does not disclose the properties as claimed. However, it is the examiner's position that the starch disclosed by Chiu inherently has the same properties as claimed because the starch is processed in the same way as the claimed starch and applicant does not seem to dispute this position. Applicant also argues Chiu does not teach or suggest the use of its starch in baked or fried products. This argument is not persuasive. Chiu discloses the starch is particularly suited for use in pie, cream fillings, puddings, spread, jellies and instant mixes; however, Chiu does not disclose that these products are the only products the starch can be used. It is well known starch is used in a variety of product and Mizoguchi et al teach using processed starch in baked product. It would have been obvious to use the Chiu product in other product including baked product when the properties provided by the starch is desired in such product. Applicant directs the examiner's attention to example 4 where it is shown crosslinked starches do not perform as well as the starches claimed. The starches shown in example 4 is not the starches disclosed by Chiu. The Chiu starch is not only crosslinked; the starch is treated by pH adjustment and is then drum dried. This is the same treatment as disclosed in the specification for the claimed starch.

For the following reasons, Applicants respectfully traverse the Examiner's rejection of claims 2-16 as being unpatentable over Chiu in view of Mizoguchi.

Applicants have previously discussed Chiu and Mizoguchi, those arguments being incorporated herein. Both Chiu and Mizoguchi teach crosslinked, cold water swellable starches.

Chiu is directed towards instant gelling, cold water soluble starches that are useful in pie fillings, jellies and puddings. Specifically, Chiu is directed towards instant gelling, cold water soluble **tapioca** starches (Abstract; col. 2, lines 19-22 and 50-51; col. 6, lines 20-21; Examples I-IV and VI-X; claims 1, 4 and 5). The Examiner states that Chiu teaches that “[s]tarch such as tapioca can be used”. However, Chiu teaches that **only tapioca starch can be used**.

Chiu shows that other starches such as waxy maize or cornstarch that are prepared by the same process do not perform as well (Example V), *i.e.*, they do not provide the instant gelling starch of the invention of Chiu. Chiu also states that only crosslinked starches gel (col. 8, line 66 – col. 9, line 1). This is in direct contrast to the Examiner’s statement that starches prepared by the same process will have the same properties as claimed. Chiu, as previously shown, proves such a statement to be false. Likewise, the present application proves such a statement to be false. Referring to Table 1 of the present application, therein is provided a variety of starches, all prepared by the same process of Example 1, yet each exhibiting different properties. Both Table 1 and Graph 2 show that non-crosslinked starches perform better than crosslinked starches and exhibit different properties. Accordingly, the Examiner’s position that “the starch disclosed by Chiu inherently has the same properties as claimed because the starch is processed in the same way as the claimed starch” fails to consider this evidence and the evidence of Chiu, both of which prove this position to be invalid.

The Examiner recognizes that Chiu does not teach the use of its starch in dough, nor does Chiu teach or suggest the properties of the starch as claimed. The Examiner cites Mizoguchi as disclosing a processed starch useful in dough products. However, Mizoguchi does not teach or suggest the properties of the starch as claimed. Accordingly, neither Chiu nor Mizoguchi, alone or in combination render the presently claimed invention obvious.

Applicants previously referred the Examiner to Example 4 and Graph 2 of the present application to show that crosslinked starches do not perform as well as the starches of the present invention, nor do they fall within the claimed parameters. The Examiner replies by stating that the starches of Example 4 are not the starches that are disclosed by Chiu. According to the Examiner, the Chiu starch is crosslinked, pH adjusted, and then drum dried, and that this is the

same treatment as disclosed in the specification for the claimed starch. Applicants respectfully direct the Examiner's attention to Example 1, wherein the general process for preparing the starches of the present invention is disclosed. There it is shown that the starches are prepared by adding the starch to a solvent creating a slurry, adjusting the pH of the slurry, and then drum drying the slurry. The starch exemplified is raw (*i.e.*, unmodified) sago starch. However, Example 1 also states that starch can be obtain from crosslinked starch and acid hydrolyzed (*i.e.*, converted) starch. Example 3 of the present application states that several different types of starches were prepared by the process taught in Example 1, including crosslinked starch and converted starch. Accordingly, the crosslinked starch of Example 3 was pH adjusted and then drum dried. Example 4 is a continuation of Example 3, wherein in Example 4 those starches are rheologically evaluated. This includes the starch that is crosslinked, pH adjusted and then drum dried. Both Table 1 of Example 3 and Graph 2 of Example 4 show that these crosslinked, pH adjusted and drum dried starches do not fall within the claimed parameters. Accordingly, one skilled in the art would believe that the crosslinked starches of Chiu and Mizoguchi would not have the properties claimed in the present invention.

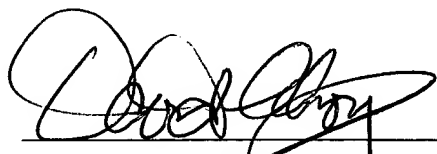
It is believed that these remarks overcome the Examiner's rejection of claims 2-16 as being unpatentable over Chiu in view of Mizoguchi under 35 U.S.C. § 103(a). Withdrawal of the rejection is respectfully requested.

It is believed that the above remarks overcome the Examiner's rejections of the claims under 35 U.S.C. §§ 112, second paragraph, 101 and 103(a) as indicated herein above. Withdrawal of the rejections is therefore respectfully requested. Allowance of the claims is believed to be in order, and such allowance is respectfully requested.

Dated:

27 August 2003

NATIONAL STARCH AND CHEMICAL
COMPANY
Post Office Box 6500
Bridgewater, New Jersey 08807-0500
Phone 908.683.5433
Fax 908.707.3706



David P. LeCroy
Attorney for Applicants
Reg. No. 37,869